

**Abstract**

Improved techniques for multilevel coding of a stream of information bits in a communication system are disclosed. The stream of information bits is separated into portions, and each of the portions is associated with a different level of the multilevel coding. At least one code is applied to the portion of the information bits of each level in a designated subset of the full set of levels, such that the portions of the information bits for levels in the designated subset are coded while the portions of the information bits for levels not in the designated subset are uncoded. Both the coded portions of the information bits and the uncoded portions of the information bits are used to select modulation symbols for transmission in the system. Advantageously, the invention provides improved coding gain relative to conventional techniques, and can be configured to provide unequal error protection as well as time diversity for transmissions in the system.